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DuPont Fluoroproducts  
Chestnut Run Plaza  
P. O. Box 80702  
Wilmington, DE 19880-0702

**VIA OVERNIGHT MAIL**

Document Control Office (DCO)  
Office of Pollution Prevention and Toxics (OPPT)  
U.S. Environmental Protection Agency  
EPA East, Room 6428  
1201 Constitution Avenue, NW  
Washington, DC 20460  
Attn: Docket No. AR-226 or OPPT-2003-0012



July 25, 2006

Dear Sir/Madam:

**Subject: Submission of Biennial Reports Pursuant APFO Users LOI  
Dated March 14, 2003**

Pursuant to commitments made in the above-identified LOI, please find attached the following reports submitted on behalf of E. I. DuPont de Nemours and Company:

- Biennial Report for APFO Manufacture – Calendar Years 2004 and 2005 – DuPont Company Fayetteville Works (confidential business information redacted; public copy)
- Biennial Report for Fluoropolymer Manufacture – Calendar Years 2004 and 2005 DuPont Washington Works

Please contact me if you need further information or clarification.

Very truly yours,

David W. Boothe

Attachments: Fayetteville Works Biennial Report (11 pages)  
Washington Works Biennial Report (2 pages)

EPA 00001

DOCUMENT 1

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## LETTER OF INTENT SUBMISSION

Biennial Report for APFO Manufacture  
Calendar Years of 2004 and 2005

E.I. du Pont de Nemours and Company  
Fayetteville Works Site  
Bladen County, North Carolina

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*Note: The information contained in this document is submitted voluntarily and may be subject to future revision and/or modification.*

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This report is submitted pursuant to commitments made by E.I. du Pont de Nemours and Company (DuPont) in a March 14, 2003, Letter of Intent (LOI) to Stephen L. Johnson, Assistant Administrator, United States Environmental Protection Agency (EPA), entitled "Voluntary Actions to Evaluate and Control Emissions of Ammonium Perfluorooctanoate (APFO)".

Pursuant to Addendum III, provision 5, of this LOI, a facility manufacturing APFO will, beginning in the year after production commences, and continuing for five consecutive years following, for the prior calendar year, report to EPA biennially the following information on a calendar year basis:

1. Annual production volume of APFO;
2. Emissions per facility (air, water, waste);
3. Summary report of groundwater monitoring results;
4. Summary report of surface water monitoring results;
5. Workplace industrial hygiene monitoring; and
6. Summary data on employee blood monitoring results.

This report provides the above information for calendar years 2004 and 2005, and includes data received as of May 15, 2006, for the Fayetteville Works site ("the site").

### General Facility Information

Company Name: E. I. du Pont de Nemours and Company

Site Location: Site where APFO is manufactured:  
DuPont Company – Fayetteville Works  
22828 NC Highway 87 W

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Fayetteville, NC 28306-7332

**1. Annual production volume of APFO**

The following table shows the total production volume of APFO for calendar years 2004 and 2005.

Calendar Year	APFO Production
2004	[CBI]
2005	[CBI]

**2. Emission per facility (air, water, waste)**

For air emissions, the quantity of APFO emitted to the atmosphere in 2004 and 2005 from the site was estimated using engineering calculations.

For surface water emissions, annually a sample of the site's final surface water discharge to the Cape Fear River is tested for the presence of APFO<sup>1</sup>. For 2004 and 2005, results showed APFO to be less than the analytical method's quantification limit of 0.050 µg/L (0.050 parts per billion). The reported emissions were calculated using this analytical result (<0.050 µg/L) and the average discharge flow rate (12.397 million gallons per day in 2004 and 10.441 million gallons per day in 2005).

The waste emissions are the quantities of APFO, on a dry basis, that are estimated to have been present in the various solid waste streams transferred from the Fayetteville Works site.

The following table gives the estimated emissions of APFO to specific media from the Fayetteville Works during the subject years:

Media	2004	2005
Air	47.3 lb.	55.5 lb.
Water	<1.9 lb.	<1.6 lb.
Waste	9,914 lb.	10,019 lb.

**3. Summary report of groundwater monitoring results**

In 2004, 2005, and 2006, the Fayetteville Works site continued the annual groundwater monitoring for APFO that began in 2003. The monitoring involved both newly installed wells and existing monitoring wells. All groundwater and surface water concentrations are reported as APFO (see footnote 1 on this page). This report also provides results available

<sup>1</sup> While APFO is the substance manufactured at the facility, the substance measured by analytical techniques is the perfluorooctanoate anion (PFO<sup>-</sup>). The commercial laboratory converts this analytical result to an APFO value via molecular weight calculations. For consistency with the previously submitted biennial report for this site, results are reported as the calculated APFO values.

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as of May 30, 2006.

The following table reports the groundwater monitoring analytical results, both onsite and offsite, for 2004, 2005, and year-to-date 2006:

**Summary of Groundwater Analytical Results  
DuPont Fayetteville Works  
2004 – 2006**

Sample ID (Groundwater Monitoring Well Description)	Monitoring Date	APFO (µg/L)
MW-1S Onsite monitoring well located near the inactive Biosludge Lagoon area in the perched groundwater above a local clay feature; South of the APFO Manufacturing Facility.	02/03/04	NQ (<0.050)
	06/20/05	NQ (<0.050)
	01/24/06	0.038
MW-2S Onsite monitoring well located near the inactive Biosludge Lagoon area in the perched groundwater above a local clay feature; South of the APFO Manufacturing Facility.	06/20/05	NQ (<0.050)
MW-5D Onsite monitoring well located near the inactive Biosludge Lagoon area in the surficial groundwater beneath a local clay feature; South of the APFO Manufacturing Facility.	06/20/05	NQ (<0.050)
MW-7S Onsite monitoring well located near the inactive Biosludge Lagoon area in the perched groundwater above a local clay feature; South of the APFO Manufacturing Facility.	10/18/05	0.047
MW-10D Onsite monitoring well located near the inactive Biosludge Lagoon area in the surficial groundwater beneath a local clay feature; South of the APFO Manufacturing Facility.	06/20/05	ND (<0.100)
NAF-01 Onsite monitoring well located upgradient of the Nafion® Common Sump in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility.	02/04/04	0.062
	06/15/05	0.104
	10/13/05	0.151
	02/01/06	0.115
NAF-02 Onsite monitoring well located downgradient of the Nafion® Common Sump in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility.	02/04/04	0.307
	06/15/05	0.338
	10/14/05	0.246
	02/01/06	0.316
NAF-03 Onsite monitoring well located downgradient of the Nafion® Common Sump in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility.	02/04/04	1.530
	06/15/05	0.663
	10/14/05	0.872
	01/25/06	0.434

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**$\mu\text{g/L}$  = micrograms per liter or parts per billion**

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**Summary of Groundwater Analytical Results  
DuPont Fayetteville Works  
2004 – 2006**

<b>Sample ID (Groundwater Monitoring Well Description)</b>	<b>Monitoring Date</b>	<b>APFO (µg/L)</b>
NAF-04 Onsite monitoring well located downgradient of the Nafion® Common Sump in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility.	02/04/04	0.124
	06/17/05	0.093
	10/18/05	0.212
	02/01/06	0.065
NAF-05A Onsite monitoring well located downgradient of the Nafion® Common Sump in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility.	11/11/04	0.239
	10/13/05	0.187
NAF-05B Onsite monitoring well located downgradient of the Nafion® Common Sump in the surficial groundwater beneath a local clay feature; Southeast of the APFO Manufacturing Facility.	11/11/04	ND (<0.010)
NAF-06 Onsite monitoring well located northeast of the Fluoromonomers production area in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility.	06/16/05	0.262
	10/14/05	0.535
	01/31/06	0.303
NAF-07 Onsite monitoring well located northeast of the Fluoromonomers production area in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility.	06/16/05	NQ (<0.050)
	10/14/05	0.085
	01/31/06	0.065
NAF-08A Onsite monitoring well located southeast of the Fluoromonomers production area in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility	06/17/05	0.072
	10/13/05	0.172
	01/31/06	0.053
NAF-08B Onsite monitoring well located southeast of the Fluoromonomers production area in the surficial groundwater beneath a local clay feature; Southeast of the APFO Manufacturing Facility	06/21/05	ND (<0.010)
	10/13/05	NQ (<0.011)
	01/31/06	NQ (<0.012)
NAF-09 Onsite monitoring well located south of the Fluoromonomers production area in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility.	06/16/05	0.080
	10/13/05	0.121
	02/01/06	0.086

µg/L = micrograms per liter or parts per billion

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**Summary of Groundwater Analytical Results  
DuPont Fayetteville Works  
2004 – 2006**

<b>Sample ID (Groundwater Monitoring Well Description)</b>	<b>Monitoring Date</b>	<b>APFO (µg/L)</b>
NAF-10 Onsite monitoring well located south of the Fluoromonomers production area in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility.	06/16/05	0.122
	10/13/05	0.134
	02/01/06	0.088
NAF-11A Onsite monitoring well located northeast of the Fluoromonomers production area in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility.	07/05/05	NQ (<0.05)
	10/17/05	0.021
	01/26/06	0.048
NAF-11B Onsite monitoring well located northeast of the Fluoromonomers production area in the surficial groundwater beneath a local clay feature; Southeast of the APFO Manufacturing Facility.	07/05/05	ND (<0.010)
	10/17/05	ND (<0.002)
4328MLR Offsite private residential drinking water well; Northeast of the APFO Manufacturing Facility.	11/16/05	0.011
	11/16/05	NQ (<0.022)
6999PED Offsite private residential drinking water well; Northwest of the APFO Manufacturing Facility.	11/16/05	ND (<0.005)
	11/16/05	ND (<0.002)
PW-01 Offsite private residential drinking water well; West of the APFO Manufacturing Facility.	01/25/06	ND (<0.002)
PW-02 Offsite transient noncommunity public water system; West of the APFO Manufacturing Facility.	01/25/06	ND (<0.002)
PW-03 Offsite transient noncommunity public water system; Southeast of the APFO Manufacturing Facility.	01/25/06	ND (<0.002)
PW-04 Onsite transient noncommunity public water system; Northwest of the APFO Manufacturing Facility.	01/25/06	ND (<0.002)
PW-05 Offsite transient noncommunity public water system; North-northwest of the APFO Manufacturing Facility.	01/25/06	NQ (<0.012)

µg/L = micrograms per liter or parts per billion

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**Summary of Groundwater Analytical Results  
DuPont Fayetteville Works  
2004 – 2006**

Sample ID (Groundwater Monitoring Well Description)	Monitoring Date	APFO (µg/L)
PW-06 Offsite transient noncommunity public water system; North-northwest of the APFO Manufacturing Facility.	01/25/06	ND (<0.002)
PW-07 Offsite private residential drinking water well; South-southwest of the APFO Manufacturing Facility.	03/30/06	ND (<0.001)
PZ-04 Onsite monitoring well located southeast of Nafion® Common Sump in the perched groundwater above a local clay feature; Southeast of the APFO Manufacturing Facility.	02/01/06	0.617
PZ-12 Onsite monitoring well located southeast of the APFO Manufacturing Facility in the perched groundwater above a local clay feature.	10/17/05	0.021
	12/13/05	0.015
	01/26/06	0.018
PZ-15 Onsite monitoring well located northwest of the PMDF Facility in the perched groundwater above a local clay feature; South-southeast of the APFO Manufacturing Facility.	01/26/06	0.032
PZ-16 Onsite monitoring well located southeast of the PMDF Facility in the perched groundwater above a local clay feature; South-southeast of the APFO Manufacturing Facility.	01/26/06	NQ (<0.012)
SMW-01 Onsite monitoring well located east of the Construction Gate entrance near Highway 87 in the surficial aquifer; Southwest of the APFO Manufacturing Facility.	02/03/04	ND (<0.010)
	06/20/05	ND (<0.010)
	01/24/06	ND (<0.002)
SMW-02 Onsite monitoring well located north of the River Pump Road, north of the Fluoromonomers manufacturing area, in the perched groundwater above a local clay feature; East of the APFO Manufacturing Facility.	02/03/04	ND (<0.010)
	06/20/05	ND (<0.010)
	09/06/05	NQ (<0.007)
	10/17/05	ND (<0.002)
	01/26/06	NQ (<0.012)

µg/L = micrograms per liter or parts per billion

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**Summary of Groundwater Analytical Results  
DuPont Fayetteville Works  
2004 – 2006**

Sample ID (Groundwater Monitoring Well Description)	Monitoring Date	APFO (µg/L)
SMW-02B Onsite monitoring well located north of the River Pump Road, north of the Fluoromonomers manufacturing area, in the surficial groundwater beneath a local clay feature; East of the APFO Manufacturing Facility.	10/17/05	ND (<0.022)
SMW-04B Onsite monitoring well located north of the River Pump Road, north of the APFO Manufacturing Facility, in the surficial groundwater beneath a local clay feature.	10/17/05	2.25
	11/10/05	2.51
	01/24/06	1.30
SMW-05 Onsite monitoring well located north of and adjacent to the APFO Manufacturing Facility, in the perched groundwater above a local clay feature.	10/17/05	147
	12/13/05	765
SMW-05P Onsite monitoring well located north of and adjacent to the APFO Manufacturing Facility, in the surficial groundwater beneath a local clay feature.	02/22/06	6.5
SMW-06 Onsite monitoring well located east of and adjacent to the APFO Manufacturing Facility, in the perched groundwater above a local clay feature.	12/13/05	0.224
	01/26/06	0.261
SMW-07 Onsite monitoring well located south of and adjacent to the APFO Manufacturing Facility, in the perched groundwater above a local clay feature.	10/17/05	0.019
	12/13/05	NQ (<0.012)
	01/26/06	NQ (<0.012)
#562877 - Domestic H <sub>2</sub> O Inactive onsite drinking water well located near the Powerhouse area, screened in the Upper Cape Fear confined aquifer; South of the APFO Manufacturing Facility.	07/15/04	ND (<0.010)
#562878 – Domestic H <sub>2</sub> O Inactive onsite drinking water well located near the Powerhouse area, screened in the Upper Cape Fear confined aquifer; South of the APFO Manufacturing Facility.	07/15/04	ND (<0.010)
INSITU #1 Shallow Onsite monitoring well located near the facility's northern property line in the upper level of the surficial groundwater; North-northeast of the APFO Manufacturing Facility.	12/20/05	NQ (<0.013)

µg/L = micrograms per liter or parts per billion

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**Summary of Groundwater Analytical Results  
DuPont Fayetteville Works  
2004 – 2006**

<b>Sample ID (Groundwater Monitoring Well Description)</b>	<b>Monitoring Date</b>	<b>APFO (µg/L)</b>
<b>INSITU #2 Deep</b> Onsite monitoring well located near the facility's northern property line in the lower level of the surficial groundwater; Northwest of the APFO Manufacturing Facility.	12/20/05	ND (<0.027)
<b>INSITU #2 Shallow</b> Onsite monitoring well located near the facility's northern property line in the lower level of the surficial groundwater; Northwest of the APFO Manufacturing Facility.	12/20/05	NQ (<0.013)
<b>LTW-01</b> Onsite monitoring well located near the facility's eastern property line along the Cape Fear River in the surficial groundwater; East of the APFO Manufacturing Facility.	02/02/06	0.033
<b>LTW-02</b> Onsite monitoring well located near the facility's eastern property line along the Cape Fear River in the surficial groundwater; East-southeast of the APFO Manufacturing Facility.	02/02/06	ND (<0.002)
<b>LTW-03</b> Onsite monitoring well located near the facility's eastern property line along the Cape Fear River in the surficial groundwater; East-southeast of the APFO Manufacturing Facility.	02/01/06	ND (<0.002)
<b>LTW-04</b> Onsite monitoring well located near the facility's eastern property line along the Cape Fear River in the surficial groundwater; Southeast of the APFO Manufacturing Facility.	01/24/06	ND (<0.002)
<b>LTW-05</b> Onsite monitoring well located near the facility's eastern property line along the Cape Fear River in the surficial groundwater; Southeast of the APFO Manufacturing Facility.	02/02/06	ND (<0.002)

µg/L = micrograms per liter or parts per billion

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**4. Summary report of surface water monitoring results**

The Fayetteville Works facility annually monitors for APFO in the site's surface water discharge to the Cape Fear River. This monitoring location is the site's final effluent

discharge at the NPDES permitted Outfall 002. The results of that monitoring are shown in the following table:

Surface Water Sample ID (Sample Description)	Monitoring Date	APFO ( $\mu\text{g/L}$ )
Outfall 002 Final NPDES permitted wastewater discharge; Located south of the central wastewater treatment plant and south of the APFO Manufacturing Facility.	02/03/04	NQ (<0.050)
	06/20/05	NQ (<0.050)
	01/24/06	0.025

$\mu\text{g/L}$  = micrograms per liter or parts per billion

Monitoring of stagnant water in a stormwater conveyance ditch was conducted in 2005. While this stagnant water meets the definition of a surface water, it should be noted that this water consisted of exclusively non-flowing puddles of water at the time of the sampling. The results of that monitoring are shown in the following table:

Surface Water Sample ID (Sample Description)	Monitoring Date	APFO ( $\mu\text{g/L}$ )
SW-01 Stormwater ditch north of Fluoromonomers area; East of the APFO Manufacturing Facility.	06/20/2005	0.100
	09/06/2005	0.129
	10/07/2005	0.068
SW-02 Stormwater ditch north of Fluoromonomers area; East of the APFO Manufacturing Facility.	06/20/2005	0.135
	09/06/2005	0.302
	10/07/2005	0.157
SW-03 Stormwater ditch north of Fluoromonomers area; East of the APFO Manufacturing Facility.	06/21/2005	0.142
	09/06/2005	0.298
	10/07/2005	0.149
SW-04 Stormwater ditch north of Fluoromonomers area; East of the APFO Manufacturing Facility.	06/20/2005	0.093
	10/07/2005	0.147
SW-05 Stormwater ditch north of Fluoromonomers area; East of the APFO Manufacturing Facility.	10/07/2005	0.139

$\mu\text{g/L}$  = micrograms per liter or parts per billion

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Sampling of two unnamed tributaries to the Cape Fear River, and two streams flowing to one of those tributaries, was conducted in 2006. It is believed that the base flow in these tributaries is primarily from expressed groundwater, with additional episodic flow from stormwater runoff. The surface water samples described in the table that follows were taken

during base flow conditions. The results of that monitoring are shown in the following table:

Surface Water Sample ID (Sample Description)	Monitoring Date	APFO (µg/L)
SW-06 Located east of the Fluoromonomers area, in an unnamed tributary (#1) to the Cape Fear River	01/25/2006	0.027
SW-07 Located east of the Fluoromonomers area, in a stream (#1) flowing into the unnamed tributary #1	01/25/2006	0.040
SW-08 Located east of the Fluoromonomers area, in a stream (#2) flowing into the unnamed tributary #1	01/25/2006	0.032
SW-09 Located east of the PMDF manufacturing area, in an unnamed tributary (#2) to the Cape Fear River	01/25/2006	0.027

µg/L = micrograms per liter or parts per billion

In 2005, the site's non-contact cooling water and the influent and effluent of the river water sediment basin were sampled. Both of these waters ultimately discharge through the site's NPDES permitted Outfall 002. The non-contact cooling water is raw river water that is pumped from the Cape Fear River, through equipment to remove heat, and then back to the river. The river water sediment basins receive river water and its sediment that has been removed from the river water as a result of clarification. The results of that monitoring are shown in the following table:

Surface Water Sample ID (Sample Description)	Monitoring Date	APFO (µg/L)
NR-01 Non-contact, once-through cooling water flowing in the open ditch south of the Fluoromonomers area; East of the APFO Manufacturing Facility	09/06/2005	0.077
RW-01 Influent to the filtered river water sediment basin located west of the Fluoromonomers area; East of the APFO Manufacturing Facility	09/06/2005	0.083
RW-02 Effluent from the filtered river water sediment basin located west of the Fluoromonomers area; East of APFO the Manufacturing Facility	09/06/2005	0.081

µg/L = micrograms per liter or parts per billion

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## 5. Workplace industrial hygiene monitoring

The DuPont Company – Fayetteville Works began workplace monitoring for perfluorooctanoic acid (PFOA) with the start up of the APFO Manufacturing Facility in 2002. The workplace monitoring in 2004 and 2005 consisted of stationary area monitors that sampled the building air space for twelve (12) continuous hours. These sampled locations are limited access restricted areas in which personnel wear both respiratory and dermal personnel protection. The 12-hour time weighted average (TWA) PFOA concentration values are shown in the following table:

Year	Sample Type	Number of Samples	PFOA Minimum Conc. (mg/m <sup>3</sup> )	PFOA Maximum Conc. (mg/m <sup>3</sup> )	PFOA Average Conc. (mg/m <sup>3</sup> )
2004	Area 12-hour TWA	85	0.00021	1.9	0.041
2005		42	<0.00021	0.061	0.0081

mg/m<sup>3</sup> = milligrams per cubic meter

## 6. Summary data on employee blood monitoring results

At the DuPont Company – Fayetteville Works, blood serum levels of PFOA have been measured since 2002. A summary of results of employees with identified APFO exposure potential in 2004 and 2005 is shown in the following table:

Year	Number of Samples	PFOA Minimum Concentration (ppm)	PFOA Maximum Concentration (ppm)	PFOA Average Concentration (ppm)
2004	56	0.0027	1.87	0.437
2005	64	0.0031	4.54	0.504

ppm = parts per million

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## Additional monitoring information

Additional APFO monitoring information that is not specified by the LOI is being reported in Appendix A of the site's Phase II RCRA Facility Investigation (RFI) Report. This additional information will be the analytical results for APFO concentrations of samples taken of soil, sediment, ambient air, and the Cape Fear River. A copy of the Phase II RFI Report was submitted to the N.C. Division of Waste Management on June 30, 2006 and will be provided to EPA Docket OPPT-2003-0012 as a separate submission.

## **LETTER OF INTENT SUBMISSION**

### **Biennial Report for Fluoropolymer Manufacture Calendar Years 2004 and 2005**

**E. I. DuPont de Nemours and Company  
Washington Works Facility  
Parkersburg, West Virginia**

*Note: The information contained in this document is submitted voluntarily and may be subject to future revision and/or modification.*

This report is submitted pursuant to commitments made by E. I. DuPont de Nemours and Company (DuPont) in a March 14, 2003, Letter of Intent (LOI) to Stephen L. Johnson, Assistant Administrator, United States Environmental Protection Agency (EPA), entitled "Voluntary Actions to Evaluate and Control Emissions of Ammonium Perfluorooctanoate (APFO).

More specifically, in accordance with commitments under "Section D.2, Product Stewardship for Sites that Use APFO" of the LOI, a manufacturing facility that uses APFO will provide EPA with a biennial report describing total APFO emissions at the site on a calendar year basis, starting in 2004 for calendar year 2003 and continuing to 2008. This report provides such information for calendar years 2004 and 2005 for fluoropolymer manufacturing operations at the Washington Works facility (the site or facility) as described below.

Note that APFO is the substance used in fluoropolymer manufacturing operations at the facility. The substance measured by analytical techniques for air and water emissions is the perfluorooctanoate anion (PFO<sup>-</sup>). In this report, air and water emissions (whether estimated or measured) are reported as perfluorooctanoic acid (PFOA; CAS number 335-67-1).

#### **General Facility Information**

Company Name: E. I. Du Pont de Nemours and Company

Site Location: DuPont - Washington Works  
8480 DuPont Road  
Washington, WV 26181

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**Emissions from Fluoropolymer Manufacturing Operations at the Facility:  
 Air/Water/Waste - Calendar Years 2004 and 2005**

	Pounds PFOA	
	2004	2005
Emitted to Air	3,227	143
Discharged to Water	4,326	1,701
Wastes Incinerated Off-Site	45,062	53,342
Wastes to Off-Site Biotreatment/Landfill	2,414	<1

**Basis for Reported Values:**

- Air:** Emissions are determined using engineering calculations that incorporate production data, factors for APFO usage, distribution between water and product materials and scrubber efficiencies. The factors are re-evaluated as new test data becomes available.
- Water:** Discharges are determined using the approach applied to air emissions, but applying factors for carbon bed adsorption efficiencies in place of scrubber collection efficiencies. Mass balance data is also used. The factors are re-evaluated as new test data becomes available.
- Waste:** The reported values are for APFO content in solid wastes sent to off-site commercial treatment facilities for either incineration or biotreatment. Sludges from the off-site biotreatment facility were deposited in a commercial landfill. Shipping these wastes for off-site biotreatment was stopped in 2004; all solid wastes containing APFO >1 ppm are now incinerated only. Incinerated materials include in-process wastes and off-quality materials that have been characterized to determine typical APFO levels. Activated carbon from the water treatment units is also incinerated. The total pounds of APFO incinerated from in-process wastes, off-quality material, and activated carbon are estimated by closing mass balances.

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Company Submitted